

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of	)	
Jan BOSTRÖM et al.	)	Group Art Unit: Unassigned
Application No.: Unassigned	)	Examiner: Unassigned
Filed: November 29, 2001	)	
For: Method and Device in a Multi-tone	)	
Transmission System	)	

**PRELIMINARY AMENDMENT**

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

Before examination, please amend this application as follows.

**IN THE SPECIFICATION**

Please **DELETE** the heading at page 1, line 4, entirely.

Please **REPLACE** the heading at page 1, line 8, with the following.

--Background--

Please **DELETE** the heading at page 1, line 24, entirely.

Please **REPLACE** the heading at page 2, line 1, with the following.

--Summary--

Please **REPLACE** the heading at page 2, beginning at line 18, with the following.

--Brief Description of the Drawing--

Please **REPLACE** the paragraph at page 2, beginning at line 19, with the following.

--The invention will in the following be further described in a non-limiting way and with reference to the accompanying drawing, which is a schematic functional block diagram showing one embodiment of a device in accordance with the invention.--

**IN THE CLAIMS**

Please **REPLACE** the paragraph at page 6, line 2, with the following.

--What Is Claimed Is:--.

Please **CANCEL** claims 1-7.

Please **ADD** new claims 8-15, as follows.

8. (New) A method in a multi-tone transmission system wherein a usable frequency range of a channel is separated into a plurality of frequency bands, an analog signal in each sub-band being filtered out by a plurality of band pass filters at a receiving side, the method comprising the steps of:

converting separately the analog signal in each sub-band into a digital signal in a plurality of analog-digital converters, each analog-digital converter being associated to one sub band; and

activating and deactivating each analog-digital converter depending on the presence of a signal in the associated sub band.

9. (New) The method of claim 8, further comprising the step of processing separately each digital signal in each sub-band in a signal processing unit.

10. (New) The method of claim 9, further comprising the step of detecting a presence of a signal in the associated sub-band in said signal processing unit.

11. (New) A device in a multi-tone transmission system, comprising:

a plurality of bandpass filters operatively connected to an analog line at a receiving side, so as to separate a usable frequency range of a channel into a plurality of frequency bands;

a plurality of Analog-Digital converters for converting an analog signal into a digital signal, each of the plurality of bandpass filters being operatively connected to an Analog-Digital converter, each of the plurality of Analog-Digital converters being associated to one sub-band; and

a control unit operatively connected to each of said Analog-Digital converters for activating and deactivating each converter depending on a presence of a signal in the associated sub band.

12. (New) The device of claim 11, further comprising a signal processing entity provided for each digital signal.

13. (New) The device of claim 11, further comprising a single signal processing unit provided for said digital signals.

14. (New) The device of claim 12, wherein said signal processing unit is operatively connected to manually operated means for receiving control information for said Analog-Digital converters.

15. (New) The device of claim 13, wherein said signal processing unit is operatively connected to manually operated means for receiving control information for said Analog-Digital converters.

#### IN THE ABSTRACT

Please **REPLACE** the Abstract with the following.

--A method in a multi-tone transmission system wherein a usable frequency range of a channel is separated into a plurality of frequency bands is disclosed. An analogue signal in each sub band is filtered out by a plurality of band pass filters at a receiving side. The method includes the steps of converting separately the analogue signal in each sub band into a digital signal in a plurality of Analogue-Digital converts, each Analogue-Digital converter being associated to one sub band, and activating and deactivating each Analogue-Digital converter in dependence of the presence of a signal in the associated sub band. A plurality of bandpass filters is operatively connected to an analogue line at a receiving side. Each bandpass filter is operatively connected to an Analogue-Digital converter for converting an analogue

signal into a digital signal. A control unit is operatively connected to each of said Analogue-Digital converters for activating and deactivating each converter.--

**REMARKS**

The specification has been amended, and the claims and Abstract have been replaced to place the application in better form for examination. Favorable consideration is respectfully solicited.

Respectfully submitted,

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<p>"Express Mail" mailing label No. EL 279347228 US Date of Deposit: November 29, 2001 I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to the Assistant Commissioner of Patents, Washington DC 20231 <u>Judith Harris</u> Judith Harris November 29, 2001 Date</p>
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**Attachment to Preliminary Amendment dated**

Marked-up Copy

**IN THE SPECIFICATION**

Page 1, heading at line 4,  
[Title:]

Page 1, heading at line 8,  
[Field of the Invention] Background

Page 1, heading at line 24,  
[State of the Art]

Page 2, heading at line 1,  
Summary [of the Invention]

Page 2, heading at line 18,  
Brief Description of the [Drawings] Drawing

Page 2, paragraph beginning at line 19,  
The invention will in the following be further described in a non-limiting way and with reference to the accompanying drawing[. Fig 1], which is a schematic functional block diagram showing one embodiment of a device in accordance with the invention.

**IN THE CLAIMS**

Page 6, paragraph beginning at line 2,  
[Claims] What Is Claimed Is:

**IN THE ABSTRACT**

A method [Method] in a multi-tone transmission system wherein a usable frequency range of a channel is separated into a plurality of frequency bands[,an] is disclosed. An analogue signal in each sub band [being] is filtered out by a plurality of band pass filters at a receiving side. The method [comprises] includes the steps of converting separately the analogue signal in each sub band into a digital signal in a plurality of Analogue-Digital converts [(11)], each Analogue-Digital converter being associated to one sub band, and activating and deactivating each Analogue-Digital converter in dependence of the presence of a signal in the associated sub band. A plurality of bandpass filters [(10)] is operatively connected to an analogue line [(12)] at a receiving side. Each bandpass filter is operatively connected to an Analogue-Digital converter [(11)] for converting an analogue signal into a digital signal. A control unit [(13)] is operatively connected to each of said Analogue-Digital converters [(11)] for activating and deactivating each converter.